

REMARKS

The present invention is a terminal for simultaneously operating in a first mobile radio communications network and a second different radio communications network. In accordance with an embodiment of the present invention, a terminal for simultaneously operating in a first mobile radio communication network and a second different radio communication network as illustrated, for example, in Fig. 4 includes first radio transceiver means 62 for transmitting and receiving in said mobile communications network and arranged such that successive transmissions by said first transceiver means in said mobile communications network are separated by a first time period as, for example, illustrated in Figs. 7-9 for the GSM network; and second radio transceiver means 40 for transmitting and receiving packets in the second radio communications network, arranged for transmitting and/or receiving an integer number of packets sequentially in the first time period as, for example, illustrated in Figs. 7-9 for the LPRF system. The aforementioned operation permits integration between different networks to be easily accomplished. See page 2, lines 5-32, through page 3, lines 1-3 of the specification.

Claims 1-26, 33 and 34 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent 5,870,673 (Haartsen '673) in view of United States Patent 6,590,928 (Haartsen '928). These grounds of rejection are traversed for the following reasons.

The Examiner reasons as follows in Response to Applicants' Arguments:

Applicant's argument with respect to the rejected claims 1, 33, 34 (page 13, first paragraphs) that the cited references do not disclose the "simultaneously operating in a first mobile radio communications network and a second different radio communications network". However, Haartsen (US#5,870,673) discloses Mobile handover between a private radio communications network connected to the public switch telephone network and a public land mobile network also connected to the public switch telephone network are provided by a radio communications mobile terminal supporting simultaneous communication connections between the two uncoordinated networks. Haartsen's system and method solve the problem of receiving calls *from both a wide area cellular network and a private radio communications network*, which provides a mobile terminal for receiving incoming calls, either voice or message, *both in the wide area cellular network and the private radio communications network* (Col. 3, lines 60 plus). Accordingly, the dual page monitor operations of Haartsen address the problem of receiving incoming calls on both a wide area cellular network and a private radio communications network by providing mobile terminals and methods for using the same which periodically wakes to monitor for paging messages/beacon transmissions from the respective networks. The mobile terminal is thereby able to receive calls from the private radio communications network while concurrently monitoring the wide area cellular network to receive paging messages indicating incoming unforwarded voice calls or incoming messages (simultaneously operating in a first mobile radio communications network and a second different radio communications network). The mobile terminal may either maintain registration with both systems and execute dual monitor operations at all times or forward voice calls from the wide area cellular network and use dual monitor only to receive messages on the wide area cellular network or, finally, may entirely deregister from the wide area cellular network when it is connected to a private radio communications network and only periodically enter a dual monitor mode to receive messages or unforwarded calls (Col. 5, lines 64 plus). It's noted that Interworking requirements for fixed and cellular telephone equipment have been developed to provide uniform service, including a uniform numbering plan and compatible call setup procedures. The North American cellular industry has developed the RS-553, IS-54, and IS-41 specifications for switching systems to allow cellular telephones to roam between cellular switch systems, providing authentication, location tracking, call routing and setup, and handoff between cellular switch systems. Similar specifications have been developed for other cellular systems including European GSM. The cellular switch system typically includes equipment for interconnecting to the switched

telephone network, a network of geographically separated circuit basestations, circuit-switching equipment for connecting the telephone network to the basestations, circuit control equipment, and other equipment over radio links, where a call is established between a mobile end system and a basestation. Such a cellular telephone system is described in the Bell System Technical Journal, January 1979, entitled, "The Cellular Concept," page 15, et seq. Therefore, the Examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action (emphasis added).

Furthermore, the Examiner reasons with respect to the independent claims in the Statement of Rejection as follows:

With respect to claims 1 and 33, 34, Haartsen disclose a novel method and system for the connection of mobile device between different communications networks, according to the essential features of the claims. Haartsen '673 discloses a terminal for simultaneously operating in a wide area cellular network meeting the limitation of a first mobile radio communications network, and a private radio communications network meeting the limitation of a second different radio communication network (col. 5, lines 9-19). Haartsen '673 also discloses transceiver means for transmitting and receiving in said mobile communications network and transceiver means for transmitting and receiving in the second radio communications network (col. 11, lines 16-21). Haartsen '673 also discloses that transmissions in the wide area cellular network occur in a first predetermined period of time, and transmissions in the private radio communications network occur in a second predetermined period of time (col. 11, lines 22-36). This meets the limitation of a period of time between transmissions on the first mobile communications network. Haartsen '673 discloses that the private radio network may be a TDMA network that uses designated time slots at a designated frequency.

However, Haartsen '673 fails to expressly disclose transmitting and/or receiving an integer number of packets sequentially in the period of time. In the same field of endeavor, Haartsen '928 discloses an ad hoc piconet wireless LAN wherein a temporary master unit is identified (col. 11, lines 24-36). The master unit controls the connection between two slave units, which must listen to the master during a slave receive slot and respond in a slave transmit (T_m slot (col. 12, lines 32-36). The WLAN uses TDD frames that consist of a transmit slot and a receive slot, and each slot can contain only one packet (col. 12, lines 50-55). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the

WLAN of Hamsen '928 as the private radio network of Haartsen '673 wherein the mobile terminal may be temporarily acting as the master unit. At the time the invention was made, it also would have been obvious to a person of ordinary skill in the art to transmit only whole TDD frames, thus an integer number of packets, of Haartsen :928 during the period of time of Haartsen '673. One of ordinary skill in the art would have been motivated to use the Haartsen '928 network to provide an efficient way of time slot allocation in the invention of Haartsen '673. One of ordinary skill in the art would have been motivated to only transmit whole TDD frames during the period of time so that no data would be lost or corrupted (emphasis added).

At the outset it should be noted that the Examiner's Statement of Rejection correctly states that transmissions in the two networks occur at different times. The Examiner's statement in the Response to Applicants' Arguments that suggests that Haartsen '673 operates concurrently in monitoring both networks and simultaneously operates in both networks is submitted to note a construction of operation that a person of ordinary skill in the art would make.

Each of independent claims 1, 33 and 34 substantively recites a terminal for simultaneously operating in a first mobile radio communications network and a second different radio communications network including first radio transceiver means for transmitting and receiving in said radio communications network and arranged such that successive transmissions by said first transceiver means in said mobile communications network are separated by a first period of time and second radio transceiver means for transmitting and receiving packets in the second radio communications network, arranged for transmitting and receiving an integer number of packets sequentially in the first period of time. This subject matter has no counterpart in the combined teachings of Haartson '673 and Haartsen '928.

As stated above, the Examiner errs when he construes Haartsen '673 to teach simultaneous communication operation involving two uncoordinated networks. Haartsen '673 utilizes a system in which the mobile terminal periodically wakes up from a sleep mode to monitor for incoming pages at the appropriate time on the cellular paging channel PCH and further wakes up periodically to monitor for the radio beacon signals transmitted by a private radio communications network base station. See column 3, lines 59-67, through column 4, lines 1-7. The Examiner errs throughout the Office Action in his construction that this operation reads upon the simultaneous operating in a first mobile communications network and a second different mobile communications network. The utilization of a sleep mode to periodically wake up the transceiver portions of the terminal for monitoring radio transmissions from the mobile communications network and the private network would not be considered by a person of ordinary skill in the art to meet the claimed simultaneous operation in a first mobile communications network and a second different radio communications network. Haartsen's '673 permits efficient utilization of receiver power by using a wakeup mode of operation (which is not properly construed to meet the simultaneous mode of operation) while permitting a coordinated operation between the two networks. This coordinated operation permits an optional deregistration from the wide area cellular network to establish access to a private area communications network as set forth in the Abstract and elsewhere. However, even this mode of operation does not meet the simultaneous operation limitation.

Moreover, column 5, lines 64-67, through column 6, lines 1-15, clearly teach a person of ordinary skill in the art that periodic monitoring of page networks occurs as a consequence of a synchronized waking up to determine if a communication is present for each network at the time that wake up occurs. However, what is referred to as "concurrent monitoring" is not the claimed simultaneous operation of the present invention. For simultaneous operation to occur in Haartsen '673, each of the communication monitoring operations must be operational full time without any sleep mode which is expressly contrary to the teachings of Haartsen '673.

Moreover, Haartsen '928 would not motivate a person of ordinary skill in the art to meet the mode of operation of the second radio transceiver means for transmitting and receiving packets in the second radio communications network, arranged for transmitting or receiving an integer number of packets sequentially in the first time period as recited in the independent claims. In the first place, Haartsen '928 does not pertain to the claimed mode of operation involving first radio transceiver means and second radio transceiver means which are operational in different radio networks. What is disclosed in Haartsen '928 is a master/slave operational mode in which slaves do not communicate directly with each other and therefore use the master as an intermediary to create a polling scheme controlled by the master that schedules the transmissions of the different slaves. See column 12, lines 16-49. This mode of operation, while involving time slots being assigned to different slave units, does not suggest to a person of ordinary skill in the art second radio transceiver means for transmitting receiving packets in the second radio communications network, arranged for transmitting and/or receiving an integer

number of packets sequentially in the first period of time wherein the first period of time is the time between successive transmissions by the first mobile communications network. As stated above, Haartsen '928 addresses a totally different problem of synchronizing slaves to communicate in the correct time slots through a master in a single communications network which is not analogous to the present invention.

The only way that a person of ordinary skill in the art would be motivated to make the proposed combination, as suggested by the Examiner, is by impermissible hindsight. It is noted that the Examiner has stated in his response to the previous arguments that "[t]he test for combining references is what the combinations of disclosures taken as a whole would suggest to one of ordinary skill in the art". This is precisely the point which Applicant asserts is the error which the Examiner is making on the record which is that the synchronization of time slots for communicating between a number of slave units in a master unit in a single network would not suggest anything to a person of ordinary skill in the art of how to allocate time slots in a second network during a period of time which separates successive transmissions in a first network. The only basis for such a modification is by impermissible hindsight.

Claim 33 further recites that the second transceiver means controls the second communications network by defining allocation patterns for transmission and/or reception of packets in the second communications network. It is noted that the Examiner has not discussed on the record the aforementioned limitation from claim 33. It is submitted that the disclosure in Haartsen '928 of providing a polling

scheme to schedule transmission of slave units does not meet the claimed "controlling the second communications network by defining allocation patterns for transmission and/or reception of packets in the second communications network". If the Examiner persists with the stated grounds of rejection of claim 33, it is requested that he point out on the record the basis for his conclusion that "one of ordinary skill in the art would have been motivated to use the Haartsen '928 network to provide an efficient way of timeslot allocation in the invention of Haartsen '673" which meets the limitation of defining allocation patterns for transmission and a reception of packets in the second communications network. Moreover, claim 34 is similarly limited and it is requested that the Examiner, if he persists in the stated grounds of rejection, also demonstrate how this limitation is met in claim 34.

Claim 34 further recites that "said allocation patterns allows the transmission of packets in the second communication network by the second transceiver means only when the first transceiver means is not transmitting in the first communication network". It is submitted that there is no such subject matter disclosed in the combination of Haartsen '673 and Haartsen '928. Haartsen '673 does not disclose any method of avoiding simultaneous transmission on two networks. Accordingly, it is submitted that the subject matter of claim 34 pertaining to the allocation patterns allowing transmission of packets in the second communication network by the second transceiver means only when the first transceiver means is not transmitting in the first communication network" is not rendered obvious by the proposed combination of Haartsen '673 and Haartsen '928. If the Examiner persists in the

stated grounds of rejection, it is requested that he point out on the record where such a limitation is found.

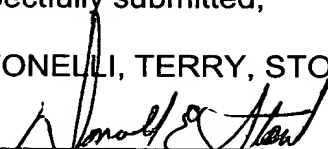
The dependent claims define further aspects of the present invention which are not rendered obvious by the proposed combination of Haartsen '673 and Haartsen '928.

In view of the foregoing remarks, it is submitted that each of the claims in the application is in condition for allowance. Accordingly, early allowance thereof is respectfully requested.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (docket no. 1156.41269X00).

Respectfully submitted,

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